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EXAMINER

PENDLETON, BRIAN T

ART UNIT	PAPER NUMBER
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2644

DATE MAILED: 08/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/784,569	Applicant(s) ARUN, UMA	
	Examiner Brian T. Pendleton	Art Unit 2644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Double Patenting

1. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

2. Applicant is advised that should claim 19 be found allowable, claim 20 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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2. **Claims 1, 2, 5-10, 12, 13, 16-20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Patterson et al, US Patent 6,154,666 in view of Dougherty, US Patent 5,872,852.

Regarding **claims 1 and 10**, Patterson disclose a wireless communications assembly having a cellular telephone 10 and hands-free adapter 50. The adapter 50 comprises environmental sensor 80 coupled to an audio gain circuit 70. Column 3 lines 49-65 state that the sensor 80 can be a noise detector or detector of a vehicle environment.. Audio gain circuit 70 is responsive to the sound environment picked up by the sensor 80. Audio gain circuit 70 is a noise suppression algorithm for a hands-free system based on a create noise parameter. The telephone 10 can be used in a vehicle environment and the acoustic environment picked up by the sensor 80 is a vehicle condition. Thus, Patterson discloses that a vehicle condition is received, a noise parameter based on the vehicle condition is created and gain is adjusted accordingly. Patterson does not disclose receiving a *plurality* of vehicle condition inputs and adjusting the noise suppression algorithm (audio gain circuit 70) based on those inputs. Dougherty discloses a noise estimation system for use with audio reproduction equipment. The system is applicable to a passenger compartment of a vehicle. Figures 7 and 8 disclose a sensor subsystem 610, gain control subsystem 512 and amplification system 510. Sensor subsystem 610 receives a plurality of vehicle condition inputs 622, 624, 626, 628, 630, 632, 634, 636 which is used by address generator 612 and noise table memory device 614 to generate noise estimate signals, said estimate signals used to control the gain in three frequency bands. Dougherty thus discloses receiving a plurality of vehicle condition inputs and creating a noise parameter based on the condition inputs. It would have been obvious to one of ordinary skill in the art at the time of

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invention to substitute the sensor 80 of Patterson with the sensor subsystem 610, as taught by Dougherty, for the purpose of providing more than one environmental sensor for picking up noise and increasing the accuracy of noise estimation, as disclosed in column 21 lines 12-27 of Dougherty. Regarding **claim 2**, Dougherty discloses vibration sensor 626 which senses the vibration caused by the tires and road surface which is an external vehicle condition. The sensed condition is sent to the gain control subsystem 512, which in the modified Patterson apparatus would be the audio gain circuit 70 of the hands-free system. Regarding **claim 5**, Dougherty discloses climate control fan sensor 628, which is an internal vehicle condition, that is sent to gain control subsystem 512, which in the modified Patterson apparatus would be the audio gain circuit 70 of the hands-free system. Per **claim 6**, Dougherty discloses window position sensor 630 which senses the position of the window. To one of ordinary skill in the art a window's position indicates the amount of wind noise present inside the vehicle. Therefore, Dougherty discloses a plurality of internal vehicle conditions. Column 19 lines 8-36 disclose that the sensor outputs are combined to generate an address that looks-up a noise estimate. The combined sensor outputs would be sent to the hands-free system in the modified Patterson apparatus. As to **claim 7**, there is no patentable difference between transmitting the internal vehicle conditions as a combined signal, as taught by Dougherty, or transmitting the conditions individually to the hands-free system and then combining them. In either configuration, the system must combine the conditions to have an useful indication of the noise environment. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to transmit each of the plurality of internal vehicle conditions to the hands-free system and combine the received internal vehicle conditions. Per **claim 8**, Patterson discloses environment sensor 80 which

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determines an acoustic environment. As stated before, the sensor 80 could be an ambient noise detector. In view of Dougherty, it was advantageous to provide a plurality of vehicle conditions to determine the acoustic environment. Substituting the sensor system 600 of Dougherty for the sensor 80 could be one possibility, however, it would have been obvious to one of ordinary skill in the art at the time of invention to *incorporate* the sensor system 600 with the ambient noise detector of the environment sensor 80 in Patterson to combine an ambient noise parameter with the noise estimate output from noise table memory device 614 and modify the noise suppression algorithm of audio gain circuit 70 based on the combination for the purpose of supplying a better accurate of the noise affecting the use of the hands-free telephone. As to **claim 9**, Dougherty discloses climate control fan 628. **Claim 12** represents a computer program executing the steps performed by the method in claim 1. The combination of Patterson and Dougherty do not disclose a computer readable medium storing such a computer program. Official Notice is taken that it was well known to use computer programs to execute signal processing methods and its advantages, such as flexibility in programming for different applications were well known and expected in the art. It would have been obvious to one of ordinary skill in the art at the time of invention to store a computer program executing the steps performed by the combination of Patterson and Dougherty to provide an user with flexibility and adaptability with the tuning system. Regarding **claim 13**, Dougherty discloses vibration sensor 626 which senses the vibration caused by the tires and road surface which is an external vehicle condition. The sensed condition is sent to the gain control subsystem 512, which in the modified Patterson apparatus would be the audio gain circuit 70 of the hands-free system. Regarding **claim 16**, Dougherty discloses climate control fan sensor 628, which is an internal vehicle condition, that is sent to

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gain control subsystem 512, which in the modified Patterson apparatus would be the audio gain circuit 70 of the hands-free system. Per **claim 17**, Dougherty discloses window position sensor 630 which senses the position of the window. To one of ordinary skill in the art a window's position indicates the amount of wind noise present inside the vehicle. Therefore, Dougherty discloses a plurality of internal vehicle conditions. Column 19 lines 8-36 disclose that the sensor outputs are combined to generate an address that looks-up a noise estimate. The combined sensor outputs would be sent to the hands-free system in the modified Patterson apparatus. As to **claim 18**, there is no patentable difference between transmitting the internal vehicle conditions as a combined signal, as taught by Dougherty, or transmitting the conditions individually to the hands-free system and then combining them. In either configuration, the system must combine the conditions to have an useful indication of the noise environment. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to transmit each of the plurality of internal vehicle conditions to the hands-free system and combine the received internal vehicle conditions. Per **claims 19 and 20**, Patterson discloses environment sensor 80 which determines an acoustic environment. As stated before, the sensor 80 could be an ambient noise detector. In view of Dougherty, it was advantageous to provide a plurality of vehicle conditions to determine the acoustic environment. Substituting the sensor system 600 of Dougherty for the sensor 80 could be one possibility, however, it would have been obvious to one of ordinary skill in the art at the time of invention to *incorporate* the sensor system 600 with the ambient noise detector of the environment sensor 80 in Patterson to combine an ambient noise parameter with the noise estimate output from noise table memory device 614 and modify

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the noise suppression algorithm of audio gain circuit 70 based on the combination for the purpose of supplying a better accurate of the noise affecting the use of the hands-free telephone.

3. **Claims 3, 4, 11, 14, and 15** are rejected under 35 U.S.C. 103(a) as being unpatentable over Patterson in view of Dougherty as applied to claims 1, 10 and 12 above, and further in view of Kasai et al, US Patent 4,641,344. Regarding **claims 3, 11 and 14**, the combination of Patterson and Dougherty discloses sensor subsystem 610 having a plurality of sensors including an external vehicle sensor 626. The combination however does not disclose sensing a plurality of external vehicle conditions, combining the external vehicle conditions and transmitting the combined external vehicle conditions to the hands-free system. Kasai discloses audio equipment for use in a vehicle whereby the audio signal from sound source 1 is modified by dynamic range controller 3 according to the noise detected by noise level detector 9A, as illustrated in figure 6. Figure 7(b) discloses that the noise level detector 9A includes a plurality of sensors indicating the external vehicle conditions. Tunnel passage sensor and road surface monitor are a plurality of external vehicle conditions. It would have been obvious to one of ordinary skill in the art at the time of invention to modify the apparatus of Patterson and Dougherty to include the sensors taught by Kasai and combine the external vehicle conditions and transmit them to the hands-free system for the purpose of generating an improved noise estimate for applying a noise suppression algorithm since the more conditions sought, the better the estimate. Regarding **claims 4 and 15**, the combination of Patterson, Dougherty and Kasai do not explicitly state transmitting the external vehicle conditions individually to the hands-free system and then combining them. However, there is no patentable difference between transmitting the external vehicle conditions as a combined signal, as taught by Dougherty, or transmitting the conditions

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individually to the hands-free system and then combining them. In either configuration, the system must combine the conditions to have an useful indication of the noise environment. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to transmit each of the plurality of external vehicle conditions to the hands-free system and combine the received external vehicle conditions.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian T. Pendleton whose telephone number is (703) 305-9509. The examiner can normally be reached on M-F 7-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forester W. Isen can be reached on (703) 305-4386. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



btp

**BRIAN PENDLETON
PATENT EXAMINER**